

nyhart

***Indiana State Teachers'
Retirement Fund***

***Annual Actuarial Valuation
June 30, 2011***

Indiana State Teachers' Retirement Fund

Annual Actuarial Valuation

as of June 30, 2011

Nyhart

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December 30, 2011

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***The Board of Trustees
Indiana State Teachers' Retirement Fund
Indianapolis, IN***

Dear Board Members:

An actuarial valuation is prepared annually for the Indiana State Teachers' Retirement Fund. Submitted in this report are the results of the June 30, 2011 actuarial valuation.

Census Data and Asset Information

The member census data and the asset information for this valuation were furnished by the Chief Financial Officer and Staff. Their efforts and cooperation in furnishing these materials are acknowledged with appreciation. We did not audit the information provided, but we did review it thoroughly for reasonableness and compared it with the prior year's submission for consistency.

Assumptions and Methods

The actuarial assumptions used in the June 30, 2011 valuation were adopted by the Board pursuant to the Experience Study of August, 2008, which reflects the experience period from July 1, 2002 to June 30, 2007. The interest rate, assumed COLA, and amortization method were approved by the Board on September 16, 2010 for first use in the 2010 valuation. Assumptions are summarized in the Assumptions and Methods section of this report. These assumptions and methods have been used to develop the Annual Required Contribution and are consistent with the accounting requirements detailed in GASB Statements No. 25, No. 27, and No. 50.

Funding Objective

The Indiana State Teachers' Retirement Fund Pre-1996 Account is funded on a pay-as-you-go basis from the State of Indiana.

The funding objective of the Indiana State Teachers' Retirement Fund 1996 Account is to establish and receive contributions that, when invested at the assumed rate of return, will ultimately accumulate assets over each member's working lifetime that will be sufficient to pay expected retirement allowances. As such, an employer contribution rate is calculated each year. That rate is then considered in conjunction with the goal of maintaining a relatively stable contribution over time.

Fund Structure

The Indiana State Teachers' Retirement Fund (TRF) is one fund comprised of a two-account structure in compliance with Indiana Code Section 5-10.4-2-2:

1. The Pre-1996 Account consists of members who were hired prior to July 1, 1995, and who have maintained continuous employment with the same school corporation or covered institution since that date.
2. The 1996 Account consists of members who were:
 - a. hired on or after July 1, 1995; or
 - b. hired before July 1, 1995, and prior to June 30, 2005:
 - i. were either hired by another school corporation or institution covered by TRF, or
 - ii. were re-hired by a covered prior employer.

Characteristics of the Pre-1996 Account

1. Active membership in the Pre-1996 Account continues to decline as members quit, become disabled, die, retire, or incur a change in status as described in (2.b.) above, thereby automatically transferring to membership in the 1996 Account.
2. The Defined Benefits from the Pre-1996 Account are funded by State appropriations (including contributions of some revenue from the State Lottery). At the time of retirement, Annuity Savings Account (ASA) benefits payable from the Pre-1996 Account are funded by the annuitization of Pre-1996 Account member contributions.

Characteristics of the 1996 Account

1. As members depart from active service in the Pre-1996 Account, their replacements will become members of the 1996 Account. If the 1996 Account were a stand-alone plan, this pattern of departures and hirings would produce a fairly constant population size.
2. Defined Benefits payable from the 1996 Account are funded by contributions from local school corporations or other institutions that employ covered members. At the time of retirement, ASA benefits payable at retirement from the 1996 Account are funded by the annuitization of 1996 Account member contributions.

Funding Arrangements

Prior to the legislation that established the two-account structure of TRF, the Defined Benefits of the Indiana State Teachers' Retirement Fund were funded with a pay-as-you-go method. Under this arrangement, amounts were appropriated to meet the current year's pension payment requirements. Defined Benefits payable from the Pre-1996 Account continue to be funded on this basis.

In 1995, the Pension Stabilization Fund was set up for the Pre-1996 Account. Since then, some pre-funding progress has been made via State appropriations to this account.

Defined Benefits payable from the 1996 Account are funded through employer percent-of-pay contributions. The Board of the Indiana Public Retirement System sets this contribution rate after reviewing the most recent actuarial valuation report.

The contribution rate of 7.50% for fiscal year 2012 was set by the Board in fiscal year 2011 for the 1996 Account. The contribution rate of 7.50% for fiscal year 2013 was set by the Board in fiscal year 2012.

Progress Toward Realization of Financing Objectives

The funded ratio (the ratio of the actuarial value of assets to the actuarial accrued liability) is a standard measure of a Plan's funded status. In the absence of benefit improvements, it should increase over time, until it reaches 100%. The total funded ratio for the Plan (Pre-1996 Account and 1996 Account combined) decreased by 0.5% to 43.8% from 44.3% for the preceding year due to net experience losses when compared to expectations based on the actuarial assumptions.

The funded ratio of the Pre-1996 Account (pay-as-you-go) decreased to 32.0% from 33.1% for the preceding year. Based on the actuarial assumptions, it is anticipated that the Pre-1996 Account will attain 100% funded status in FY2037.

The funded ratio of the 1996 Account decreased to 91.7% from 94.7% for the preceding year. Based on the actuarial assumptions, it is anticipated that the 1996 Account will attain 100% funded status in FY2019.

Certification

We have included several schedules and exhibits in this report, including the following:

Summary of Actuarial Assumptions and Methods

Analysis of Financial Experience

Solvency Test

Schedule of Active Members' Valuation Data

Schedule of Retirants and Beneficiaries

Schedule of Funding Progress

Schedule of Employer Contributions

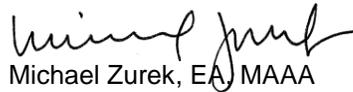
The valuation was completed under the supervision of a Member of the American Academy of Actuaries with significant experience in valuing employee retirement systems, and was prepared using generally accepted actuarial principles and in accordance with standards of practice prescribed by the Actuarial Standards Board. To the best of our knowledge, this report is complete and accurate and the actuarial methods and assumptions produce results that are reasonable.

Respectfully submitted,



John L. Dowell, FSA, EA, MAAA

JD/lmw



Michael Zurek, EA, MAAA

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Comments

Contribution Rates

The Calculated Contribution Rate section shows the calculated rate for the 1996 Account. That rate is determined as if the 1996 Account were a stand-alone plan.

Since the Pre-1996 Account is funded on a pay-as-you-go basis, only the expected benefit payments are shown in the Calculated Contribution Rate section. A similar normal cost plus UAL amortization contribution rate was calculated for the Pre-1996 Account and the two rates have been combined to determine the Annual Required Contribution shown in the GASB Disclosures section.

Plan Provisions

There is no ad-hoc COLA on January 1, 2012. Instead, retirees were paid a service-related lump sum in September 2011. These changes are reflected in the June 30, 2011 valuation. Any future COLA is estimated by an ongoing assumption of 1.0% annual increases in all pension payments beginning January 1, 2013. We are not aware of any other material changes in the plan provisions since the June 30, 2010 actuarial valuation.

Census Data

Census data for the valuation was provided by INPRS. We have thoroughly examined the data for reasonableness and consistency with prior years, but we did not otherwise audit it.

Assumptions and Methods

The actuarial assumptions used in the June 30, 2011 valuation are based on plan experience from July 1, 2002 to June 30, 2007. The interest rate, assumed COLA, and amortization method were approved by the Board on September 16, 2010 for first use in the 2010 valuation.

Investment Experience

The investment return for the year ended June 30, 2011 was higher than the assumed 7.0% return. The market value rate of return was 14.5%. Under the asset valuation method, market gains and losses are spread over a four-year period. The Market Value of Assets is currently \$230 million higher than the Actuarial Value of Assets, meaning the plan is currently in a position of having net deferred investment gains to be recognized in future years.

Challenges

The 1996 Account has been steadily funded since its inception. As membership in that portion of the plan increases, the amount of required contributions will increase as a dollar amount, but should remain relatively stable as a percentage of covered payroll with plan experience causing gradual changes. The primary funding challenge will be for the State to meet the projected pay-as-you-go obligations as shown in the Payout Projections section for the Pre-1996 Account.

Summary of Key Valuation Results

	6/30/2011			6/30/2010
	Pre-1996 Account	1996 Account	Total Fund	
Member Information				
Number				
Active Members	24,710	46,633	71,343	72,872
Vested Inactive Members	3,921	2,715	6,636	7,670
Nonvested Inactive Members	3,595	23,573	27,168	35,847
Retired Members and Beneficiaries	<u>45,421</u>	<u>2,554</u>	<u>47,975</u>	<u>45,659</u>
Total	77,647	75,475	153,122	162,048
Active Payroll	\$ 1,762,750,351	\$ 2,507,193,236	\$ 4,269,943,587	\$ 4,312,610,704
Annual Benefit Payments				
Annuity	\$ 100,593,732	\$ 4,966,056	\$ 105,559,788	\$ 98,658,408
Pension	<u>750,117,372</u>	<u>42,920,616</u>	<u>793,037,988</u>	<u>732,815,460</u>
Total	\$ 850,711,104	\$ 47,886,672	\$ 898,597,776	\$ 831,473,868
Assets and Liabilities				
Accrued Liability				
ASA Account Balance	\$ 2,236,526,000	\$ 858,271,000	\$ 3,094,797,000	\$ 3,088,166,994
ASA Annuities	937,683,410	53,685,492	991,368,902	923,883,594
Pension: Retirees	7,618,287,221	490,829,447	8,109,116,668	7,469,679,750
Pension: Non-retirees	<u>5,525,907,509</u>	<u>2,594,052,776</u>	<u>8,119,960,285</u>	<u>8,414,894,727</u>
Total	\$ 16,318,404,140	\$ 3,996,838,715	\$ 20,315,242,855	\$ 19,896,625,065
Market Value of Assets				
ASA Account Balance	\$ 2,236,526,000	\$ 858,271,000	\$ 3,094,797,000	\$ 3,104,289,933
ASA Annuities	937,683,410	53,685,492	991,368,902	748,951,741
Pension: Retirees	2,171,686,758	490,829,447	2,662,516,205	2,318,189,827
Pension: Non-retirees	<u>0</u>	<u>2,373,054,786</u>	<u>2,373,054,786</u>	<u>1,969,337,000</u>
Total	\$ 5,345,896,168	\$ 3,775,840,725	\$ 9,121,736,893	\$ 8,140,768,501
Actuarial Value of Assets				
ASA Account Balance	\$ 2,236,526,000	\$ 858,271,000	\$ 3,094,797,000	\$ 3,104,289,933
ASA Annuities	937,683,410	53,685,492	991,368,902	847,721,166
Pension: Retirees	2,053,193,372	490,829,447	2,544,022,819	2,623,905,488
Pension: Non-retirees	<u>0</u>	<u>2,261,870,624</u>	<u>2,261,870,624</u>	<u>2,229,047,035</u>
Total	\$ 5,227,402,782	\$ 3,664,656,563	\$ 8,892,059,345	\$ 8,804,963,622
Unfunded Accrued Liability				
ASA Account Balance	\$ 0	\$ 0	\$ 0	\$ (16,122,939)
ASA Annuities	0	0	0	76,162,428
Pension: Retirees	5,565,093,849	0	5,565,093,849	4,845,774,262
Pension: Non-retirees	<u>5,525,907,509</u>	<u>332,182,152</u>	<u>5,858,089,661</u>	<u>6,185,847,692</u>
Total	\$ 11,091,001,358	\$ 332,182,152	\$ 11,423,183,510	\$ 11,091,661,443
Funded Percentage				
ASA Account Balance	100.0%	100.0%	100.0%	100.5%
ASA Annuities	100.0%	100.0%	100.0%	91.8%
Pension: Retirees	27.0%	100.0%	31.4%	35.1%
Pension: Non-retirees	<u>0.0%</u>	<u>87.2%</u>	<u>27.9%</u>	<u>26.5%</u>
Total	32.0%	91.7%	43.8%	44.3%
Annual Costs				
Pension Normal Cost	\$ 92,949,943	\$ 146,409,476	\$ 239,359,419	\$ 242,348,040
1996 Account Only				
Calculated Contribution Rate		Fiscal 2013		Fiscal 2012
Normal Cost		5.84%		5.85%
Amortization of Unfunded Liability		<u>1.01%</u>		<u>0.60%</u>
Total		6.85%		6.45%
Actual Employer Contribution Rate		7.50%		7.50%
Pre-1996 Account Only				
Pension Benefit Payments	854,000,000			828,800,000
Pension Contributions*	787,500,000			765,400,000

*Fiscal 2012 and Fiscal 2013 contributions assume a 3% increase from the prior year.

Unfunded Accrued Liability

Pre-1996 Account

\$Millions

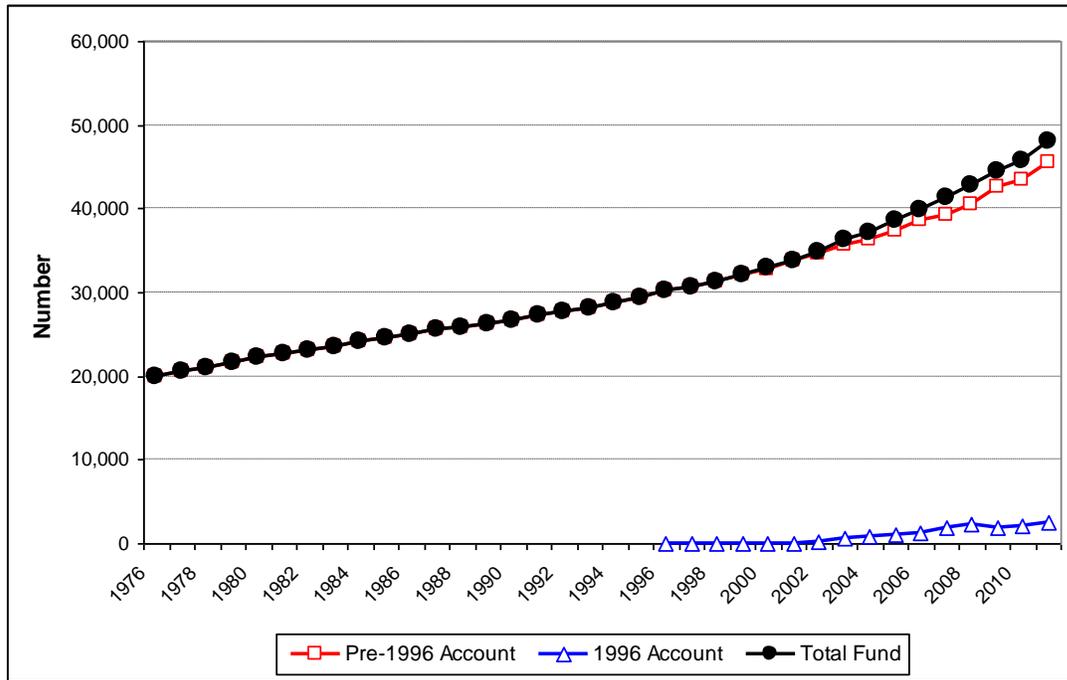
June 30	Accrued Liability	Actuarial Value of Assets	Unfunded Accrued Liability	Funded Percentage
1975	\$ 1,570	\$ 312	\$ 1,258	19.9%
1980	2,843	539	2,304	19.0%
1985	4,023	1,073	2,950	26.7%
1991	7,182	2,161	5,021	30.1%
1992	7,949	2,376	5,573	29.9%
1993	8,508	2,592	5,916	30.5%
1994	9,087	2,809	6,278	30.9%
1995	9,675	2,984	6,691	30.8%
1996	10,283	3,242	7,041	31.5%
1997	10,868	3,678	7,190	33.8%
1998	11,481	4,130	7,351	36.0%
1999	12,173	4,731	7,442	38.9%
2000	12,409	5,210	7,199	42.0%
2001	12,696	5,363	7,333	42.2%
2002	13,498	5,555	7,943	41.2%
2003	13,355	5,728	7,627	42.9%
2004	13,549	5,765	7,784	42.5%
2005	14,254	5,797	8,457	40.7%
2006	15,003	5,478	9,525	36.5%
2007	15,988	5,764	10,224	36.1%
2008	15,792	5,954	9,838	37.7%
2009	16,027	5,109	10,918	31.9%
2010	16,282	5,382	10,900	33.1%
2011	16,318	5,227	11,091	32.0%

1996 Account

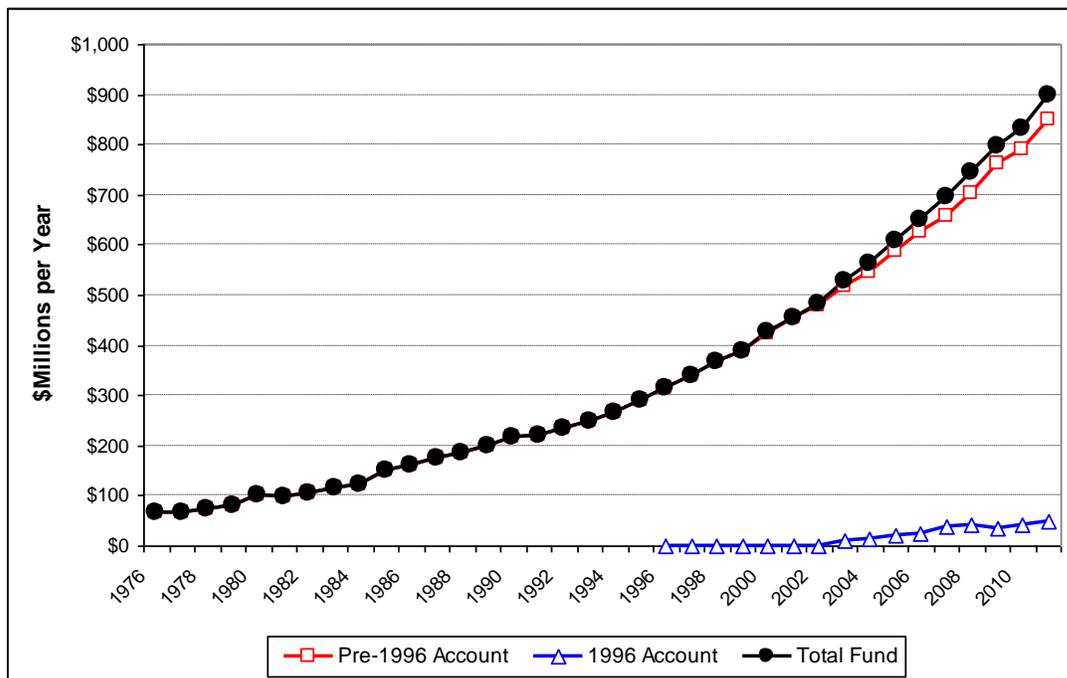
\$Millions

June 30	Accrued Liability	Actuarial Value of Assets	Unfunded Accrued Liability	Funded Percentage
1996	\$ 48	\$ 21	\$ 27	43.8%
1997	176	72	104	40.9%
1998	298	136	162	45.6%
1999	498	240	258	48.2%
2000	706	368	338	52.1%
2001	828	447	381	54.0%
2002	1,167	621	546	53.2%
2003	1,392	826	566	59.3%
2004	1,649	1,039	610	63.0%
2005	2,011	1,268	743	63.1%
2006	2,363	2,209	154	93.5%
2007	2,828	2,713	115	95.9%
2008	2,958	3,080	(122)	104.1%
2009	3,136	2,921	215	93.1%
2010	3,615	3,423	192	94.7%
2011	3,997	3,665	332	91.7%

Retired Members and Beneficiaries Receiving Benefits



Total Retirement Allowances Being Paid



Active Member Data

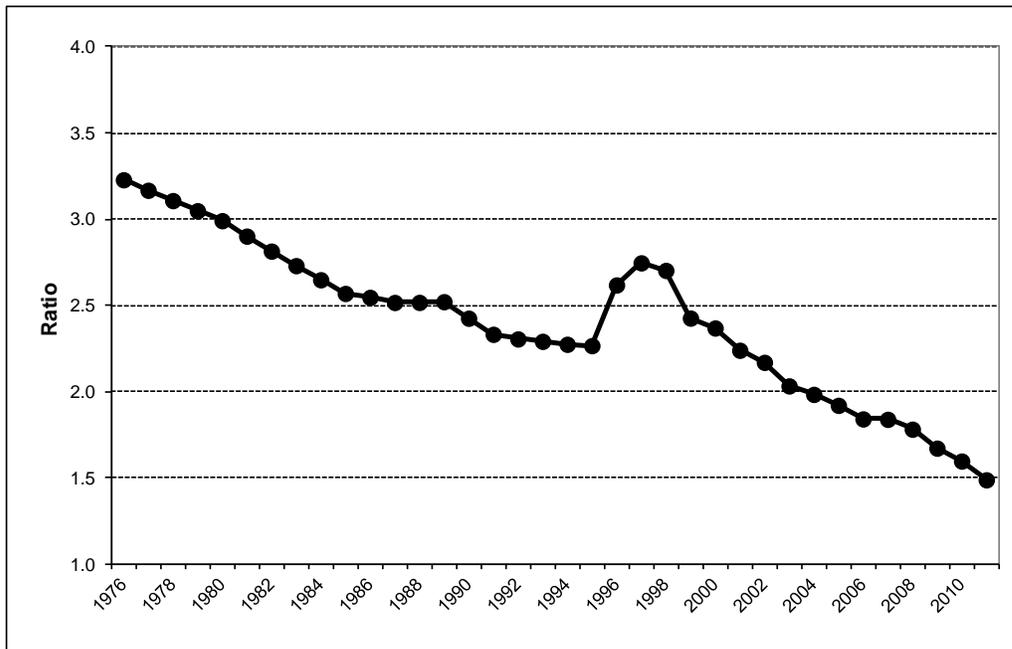
Pre-1996 Account

June 30	Number	Valuation Payroll (\$000s)	Average			
			Age	Service	Pay	Pay Increase %
1975	63,932	\$ 749,200	38.7	10.9	\$ 11,719	
1980	66,575	1,107,699	39.7	11.9	16,638	
1985	62,932	1,519,887	41.5	14.2	24,151	
1987	64,157	1,751,709	42.0	14.5	27,303	
1989	65,986	2,044,797	42.6	14.9	30,988	
1991	63,373	2,278,715	43.0	15.4	35,957	
1992	63,980	2,416,263	43.8	16.0	37,766	5.0%
1993	64,594	2,536,165	44.0	16.1	39,263	4.0
1994	65,209	2,614,915	44.1	16.2	40,101	2.1
1995	66,542	2,728,811	44.2	16.2	41,009	2.3
1996	70,183	2,805,823	44.2	15.7	39,979	(2.5)
1997	63,520	2,739,436	45.4	16.9	43,127	7.9
1998	59,030	2,699,183	46.4	18.0	45,726	6.0
1999	56,560	2,755,489	47.4	19.3	48,718	6.5
2000	52,920	2,561,533	48.2	20.1	48,404	(0.6)
2001	50,802	2,564,451	48.7	20.7	50,479	4.3
2002	47,510	2,604,956	49.4	21.5	54,830	8.6
2003	43,705	2,448,271	49.6	21.7	56,018	2.2
2004	41,510	2,384,480	50.1	22.2	57,444	2.5
2005	39,097	2,305,726	50.6	22.7	58,974	2.7
2006	36,994	2,237,380	51.1	23.2	60,480	2.6
2007	36,526	2,376,390	52.1	23.8	65,060	7.6
2008	34,628	2,295,816	52.5	24.6	66,299	1.9
2009	29,297	2,030,484	53.7	26.0	69,307	4.5
2010	26,439	1,865,102	53.9	26.3	70,544	1.8
2011	24,710	1,762,750	54.5	26.9	71,338	1.1

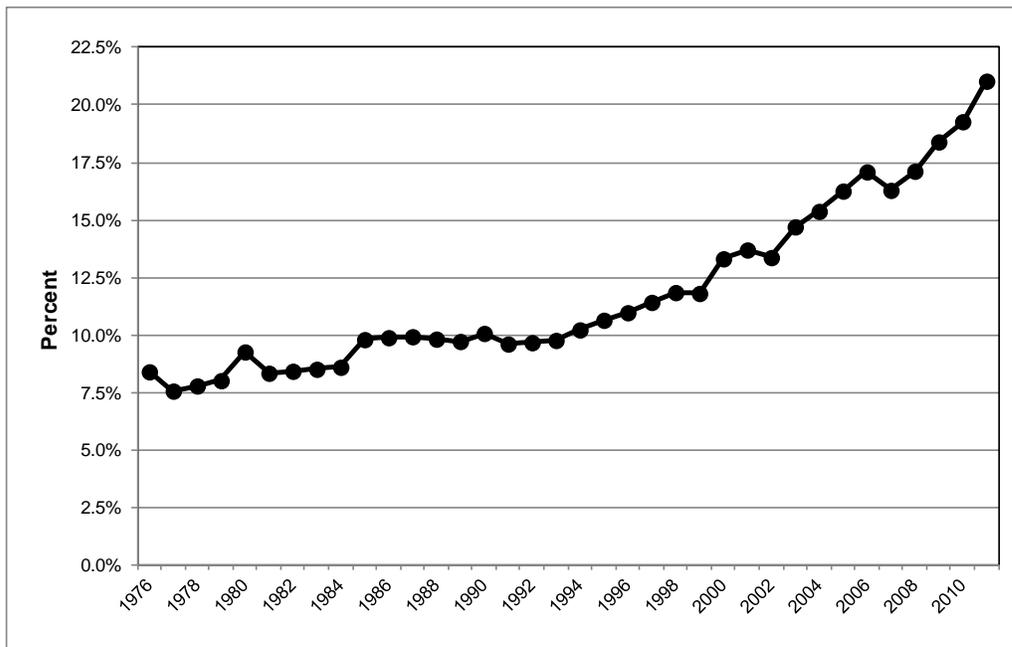
1996 Account

June 30	Number	Valuation Payroll (\$000s)	Average			
			Age	Service	Pay	Pay Increase %
1996	8,683	\$ 72,506	32.2	1.3	\$ 8,350	
1997	20,686	245,168	33.0	1.8	11,852	41.9%
1998	25,634	395,758	33.6	2.2	15,439	30.3
1999	21,185	538,837	35.3	4.0	25,435	64.7
2000	24,950	631,072	36.4	4.7	25,293	(0.6)
2001	24,846	754,426	36.3	5.5	30,364	20.0
2002	27,873	1,004,515	36.7	6.1	36,039	18.7
2003	29,936	1,136,864	37.0	6.5	37,976	5.4
2004	32,000	1,267,173	37.3	6.9	39,599	4.3
2005	34,826	1,428,604	37.5	7.2	41,021	3.6
2006	36,356	1,565,341	37.7	7.5	43,056	5.0
2007	39,307	1,891,605	38.2	7.8	48,124	11.8
2008	41,628	2,052,719	38.1	8.2	49,311	2.5
2009	45,046	2,308,548	38.3	8.4	51,249	3.9
2010	46,433	2,447,509	38.6	8.8	52,711	2.9
2011	46,633	2,507,193	39.2	9.4	53,764	2.0

Active Members per Retired Life



Total Retirement Allowances as a Percent of Valuation Payroll



Reconciliation of Market Value of Assets

	<u>6/30/2010 thru 6/30/2011</u>	<u>6/30/2009 thru 6/30/2010</u>
Market Value, beginning of year	\$ 8,140,768,501	\$ 7,199,138,852
Member Contributions	\$ 126,002,755	\$ 130,517,358
Employer Contributions	915,611,470	881,013,054
Benefit Payments	(1,231,564,054)	(1,027,551,290)
Net Transfers	<u>4,369,826</u>	<u>3,170,775</u>
Non-Investment Net Cash Flow	\$ (185,580,003)	\$ (12,850,103)
Plan Expenses	\$ (51,073,000)	\$ (53,967,988)
Investment Return	<u>1,217,621,395</u>	<u>1,008,447,740</u>
Net Investment Return	\$ 1,166,548,395	\$ 954,479,752
Market Value, end of year	\$ 9,121,736,893	\$ 8,140,768,501
Market Value Net Rate of Return	14.5%	13.3%

Development of the Actuarial Value of Assets*

	<u>6/30/2010 thru 6/30/2011</u>
1. Actuarial Value, beginning of year	\$ 5,700,673,689
2. Market Value, beginning of year	5,036,478,568
3. Market Value, end of year	6,026,939,893
4. Non-Investment Net Cash Flow	88,438,307
5. Net Investment Return	
a. Expected $[(.07 \times ((2) + 0.5 \times (4))]$	355,648,841
b. Actual $[(3) - (2) - (4)]$	<u>902,023,018</u>
6. Current Year Market Value Gain/(Loss) $[(5b) - (5a)]$	\$ 546,374,177
7. Deferred Recognition of Investment Gain/(Loss)	
a. Fiscal 2011 (75% of (6))	\$ 409,780,633
b. Fiscal 2010 (50%)	232,272,867
c. Fiscal 2009 (25%)	<u>(412,375,952)</u>
d. Total $[(a) + (b) + (c)]$	\$ 229,677,548
8. Preliminary Actuarial Value, end of year $[(3) - (7d)]$	5,797,262,345
a. 80% of Market Value, end of year $[80\% \text{ of } (3)]$	4,821,551,914
b. 120% of Market Value, end of year $[120\% \text{ of } (3)]$	7,232,327,871
9. Actuarial Value, end of year $[(8), \text{ but not Greater than } (8b), \text{ nor Less than } (8a)]$	\$ 5,797,262,345
10. Actuarial Value as a % of Market Value $[(9) / (3)]$	96.18915%
11. Net Investment Return on Actuarial Value $[(9) - (1) - (4)]$	\$ 8,150,349
12. Actuarial Value Net Rate of Return $[(11) / ((1) + 0.5 \times (4))]$	0.14%

* The Actuarial Value of Assets developed here is net of ASA account balances. For ASA account balances, the Actuarial Value of Assets is set equal to the Market Value of Assets.

Accrued Liability Reconciliation

	Pre-1996 Account	1996 Account	Total Fund
6/30/2010 Accrued Liability¹	\$ 13,944,816,570	\$ 2,863,641,501	\$ 16,808,458,071
Normal Cost	99,080,574	143,267,466	242,348,040
Actual Benefit Payments	(882,498,543)	(49,351,517)	(931,850,060)
Transfers	89,751,385	14,925,513	104,676,898
Expected Interest	<u>955,326,649</u>	<u>209,278,718</u>	<u>1,164,605,367</u>
Expected 6/30/2011 Accrued Liability¹	\$ 14,206,476,635	\$ 3,181,761,681	\$ 17,388,238,316
Sources of Change:			
Experience (Gain) or Loss	(67,217,833)	(39,261,231)	(106,479,064)
Plan Change (Gain) or Loss ²	(57,380,662)	(3,932,735)	(61,313,397)
Assumption Change	0	0	0
Method Change	<u>0</u>	<u>0</u>	<u>0</u>
Actual 6/30/2011 Accrued Liability¹	\$ 14,081,878,140	\$ 3,138,567,715	\$ 17,220,445,855

¹ Based on pension and ASA annuities only, i.e. net of ASA account balances.

² 13th check to retirees in lieu of the assumed 2012 COLA.

Asset and Liability Allocation

	Pre-1996 Account			1996 Account		
	Non-Retired	Retired	Total	Non-Retired	Retired	Total
Accrued Liability (AL)						
ASA Balance	\$2,015,579,769	\$ 220,946,231	\$ 2,236,526,000	\$ 840,340,972	\$ 17,930,028	\$ 858,271,000
ASA Annuities	0	937,683,410	937,683,410	0	53,685,492	53,685,492
Pension: Retirees	0	7,618,287,221	7,618,287,221	0	490,829,447	490,829,447
Pension: Non-Retirees	5,525,907,509	0	5,525,907,509	2,594,052,776	0	2,594,052,776
Total	\$7,541,487,278	\$8,776,916,862	\$16,318,404,140	\$3,434,393,748	\$562,444,967	\$3,996,838,715
Market Assets						
ASA Balance	\$2,015,579,769	\$ 220,946,231	\$ 2,236,526,000	\$ 840,340,972	\$ 17,930,028	\$ 858,271,000
ASA Annuities	0	937,683,410	937,683,410	0	53,685,492	53,685,492
Pension: Retirees	0	2,171,686,758	2,171,686,758	0	490,829,447	490,829,447
Pension: Non-Retirees	0	0	0	2,373,054,786	0	2,373,054,786
Total	\$2,015,579,769	\$3,330,316,399	\$ 5,345,896,168	\$3,213,395,758	\$562,444,967	\$3,775,840,725
Actuarial Assets						
ASA Balance	\$2,015,579,769	\$ 220,946,231	\$ 2,236,526,000	\$ 840,340,972	\$ 17,930,028	\$ 858,271,000
ASA Annuities	0	937,683,410	937,683,410	0	53,685,492	53,685,492
Pension: Retirees	0	2,053,193,372	2,053,193,372	0	490,829,447	490,829,447
Pension: Non-Retirees	0	0	0	2,261,870,624	0	2,261,870,624
Total	\$2,015,579,769	\$3,211,823,013	\$ 5,227,402,782	\$3,102,211,596	\$562,444,967	\$3,664,656,563
Unfunded AL						
ASA Balance	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
ASA Annuities	0	0	0	0	0	0
Pension: Retirees	0	5,565,093,849	5,565,093,849	0	0	0
Pension: Non-Retirees	5,525,907,509	0	5,525,907,509	332,182,152	0	332,182,152
Total	\$5,525,907,509	\$5,565,093,849	\$11,091,001,358	\$ 332,182,152	\$ 0	\$ 332,182,152

	Total Fund		
	Non-Retired	Retired	Total
Accrued Liability (AL)			
ASA Balance	\$ 2,855,920,741	\$ 238,876,259	\$ 3,094,797,000
ASA Annuities	0	991,368,902	991,368,902
Pension: Retirees	0	8,109,116,668	8,109,116,668
Pension: Non-Retirees	8,119,960,285	0	8,119,960,285
Total	\$10,975,881,026	\$9,339,361,829	\$20,315,242,855
Market Assets			
ASA Balance	\$ 2,855,920,741	\$ 238,876,259	\$ 3,094,797,000
ASA Annuities	0	991,368,902	991,368,902
Pension: Retirees	0	2,662,516,205	2,662,516,205
Pension: Non-Retirees	2,373,054,786	0	2,373,054,786
Total	\$ 5,228,975,527	\$3,892,761,366	\$ 9,121,736,893
Actuarial Assets			
ASA Balance	\$ 2,855,920,741	\$ 238,876,259	\$ 3,094,797,000
ASA Annuities	0	991,368,902	991,368,902
Pension: Retirees	0	2,544,022,819	2,544,022,819
Pension: Non-Retirees	2,261,870,624	0	2,261,870,624
Total	\$ 5,117,791,365	\$3,774,267,980	\$ 8,892,059,345
Unfunded AL			
ASA Balance	\$ 0	\$ 0	\$ 0
ASA Annuities	0	0	0
Pension: Retirees	0	5,565,093,849	5,565,093,849
Pension: Non-Retirees	5,858,089,661	0	5,858,089,661
Total	\$ 5,858,089,661	\$5,565,093,849	\$11,423,183,510

Solvency Test

\$ Thousands

Year Ended June 30	Accrued Liability				Portion of Accrued Liability Covered by Assets				
	Active Member Contributions	Retirees and Beneficiaries	Active Member (Employer Financed Portion)	Total	Actuarial Value of Assets	Active Member Contribs.	Retirees and Bfcys	Active Member (Employer Financed Portion)	Total
Pre-1996 Account									
2005	\$2,925,367	\$5,653,502	\$5,675,278	\$14,254,147	\$5,796,724	100.0%	50.8%	0.0%	40.7%
2006	\$2,898,891	\$6,238,115	\$5,865,465	\$15,002,471	\$5,477,221	100.0%	41.3%	0.0%	36.5%
2007	\$3,016,052	\$7,063,889	\$5,908,318	\$15,988,259	\$5,763,508	100.0%	38.9%	0.0%	36.1%
2008	\$2,613,138	\$7,244,422	\$5,934,745	\$15,792,305	\$5,953,991	100.0%	46.1%	0.0%	37.7%
2009	\$2,389,886	\$7,891,346	\$5,745,861	\$16,027,093	\$5,109,086	100.0%	34.5%	0.0%	31.9%
2010	\$2,353,715	\$8,153,240	\$5,775,111	\$16,282,066	\$5,382,410	100.0%	37.1%	0.0%	33.1%
2011	\$2,015,580	\$8,776,916	\$5,525,908	\$16,318,404	\$5,227,402	100.0%	36.6%	0.0%	32.0%
1996 Account									
2005	\$535,179	\$219,722	\$1,255,845	\$2,010,746	\$1,268,575	100.0%	100.0%	40.9%	63.1%
2006	\$602,051	\$282,638	\$1,478,412	\$2,363,101	\$2,209,468	100.0%	100.0%	89.6%	93.5%
2007	\$656,918	\$449,452	\$1,721,184	\$2,827,554	\$2,713,051	100.0%	100.0%	93.3%	95.9%
2008	\$649,840	\$514,933	\$1,792,985	\$2,957,758	\$3,080,057	100.0%	100.0%	100.0%	104.1%
2009	\$655,843	\$432,942	\$2,046,748	\$3,135,533	\$2,920,735	100.0%	100.0%	89.5%	93.1%
2010	\$750,575	\$483,117	\$2,380,867	\$3,614,559	\$3,422,554	100.0%	100.0%	91.9%	94.7%
2011	\$840,341	\$562,445	\$2,594,053	\$3,996,839	\$3,664,657	100.0%	100.0%	87.2%	91.7%
Total Fund									
2005	\$3,460,546	\$5,873,224	\$6,931,123	\$16,264,893	\$7,065,299	100.0%	61.4%	0.0%	43.4%
2006	\$3,500,942	\$6,520,753	\$7,343,877	\$17,365,572	\$7,686,689	100.0%	64.2%	0.0%	44.3%
2007	\$3,672,970	\$7,513,341	\$7,629,502	\$18,815,813	\$8,476,559	100.0%	63.9%	0.0%	45.1%
2008	\$3,262,978	\$7,759,355	\$7,727,730	\$18,750,063	\$9,034,048	100.0%	74.4%	0.0%	48.2%
2009	\$3,045,729	\$8,324,288	\$7,792,609	\$19,162,626	\$8,029,821	100.0%	59.9%	0.0%	41.9%
2010	\$3,104,290	\$8,636,357	\$8,155,978	\$19,896,625	\$8,804,964	100.0%	66.0%	0.0%	44.3%
2011	\$2,855,921	\$9,339,361	\$8,119,961	\$20,315,243	\$8,892,059	100.0%	64.6%	0.0%	43.8%

Analysis of Financial Experience

\$Millions	Pre-1996 Account	1996 Account	Total Fund
6/30/2010 Unfunded Accrued Liability¹	\$ 10,916	\$ 192	\$ 11,108
Smoothed Investment (Gain)/Loss	206	189	395
Demographic Experience / 2011 Data	(67)	(39)	(106)
Miscellaneous Other ²	36	(10)	26
Assumption/Method Changes	<u>0</u>	<u>0</u>	<u>0</u>
Net Change	\$ 175	\$ 140	\$ 315
6/30/2011 Unfunded Accrued Liability¹	\$ 11,091	\$ 332	\$ 11,423

¹ Based on pension and ASA annuities only, i.e. net of ASA account balances.

² Miscellaneous Other includes changes due to increases for benefit accruals and expected net interest on assets and liabilities, offset by decreases for contributions and a 13th check to retirees in lieu of the assumed 2012 COLA.

Calculated Employer Contribution Rate

1996 Account

	6/30/2011	% of Projected Payroll for Fiscal 2012	Projected Employer Contribution for Fiscal 2013
Normal Cost	\$ 146,409,476	5.84%	
Amortization of Unfunded Accrued Liability			
Unfunded Accrued Liability (UAL)*	\$ 332,182,152		
Unamortized UAL from Prior Years	<u>189,456,285</u>		
Net Unamortized UAL	\$ 142,725,867		
Amortization Factor (30-years, level dollar)	13.2777		
Current Year Amortization Payment	\$ 10,749,291		
Payments Established in Prior Years	<u>14,600,202</u>		
Total Amortization Payments	\$ 25,349,493	1.01%	
Calculated Employer Contribution Rate	\$ 171,758,969	6.85%	\$ 188,916,000

- The dollar contribution, based on calculated rates, is a projection to the 2013 fiscal year at a 10.0% payroll growth rate assumption for the 1996 Account and is provided for illustrative purposes.
- The calculated contribution rate for the 1996 Account is determined as if it were a stand-alone plan.

* Pension and ASA annuity only

Pre-1996 Account

	<u>Fiscal 2012</u>	<u>Fiscal 2013</u>
Expected Pension Benefit Payments	\$ 828,800,000	\$ 854,000,000

- The Pre-1996 Account is funded on a pay-as-you-go basis. The figures shown above reflect the expected defined benefit pension payments (excluding ASA annuities) to be made during fiscal year 2012 and fiscal year 2013.
- Although not shown here, a Pre-1996 Account normal cost plus a 30-year, level-dollar UAL amortization was calculated and has been reflected in the Annual Required Contribution shown in the GASB Disclosures section.

GASB Statements No. 25 and No. 27

Required Supplementary Information

Under the Governmental Accounting Standards Board (GASB) Statements No. 25 and No. 27, certain information about the plan is required to be disclosed. The information presented in the required supplementary schedules was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation follows:

Valuation Date	June 30, 2011
Actuarial Cost Method	Entry Age Normal (Level Percent of Pay)
Amortization Method	Level Dollar
Amortization Period	30 Years, Closed
Asset Valuation Method	4-Year Smoothed Market Value with 20% Corridor
Actuarial Assumptions:	
Investment Rate of Return	7.00%
Projected Pay Increases	3.50 – 12.50% (includes 3.00% wage inflation)
Cost-of-Living Adjustments	1.0% Compounded Annually on Pension Portion

Membership in the plan consisted of the following at June 30, 2011, the date of the latest actuarial valuation:

	<u>2011</u>
Retired Members and Beneficiaries Receiving Benefits	47,975
Terminated Plan Members Entitled to but Not Yet Receiving Benefits	
Vested	6,636
Nonvested	27,168
Active Plan Members	<u>71,343</u>
Total	153,122

GASB Statements No. 25 and No. 27

Required Supplementary Information

Schedule of Funding Progress

Valuation Date June 30	Actuarial Value of Assets (a)	Entry Age Accrued Liability (b)	Unfunded Accrued Liability (UAL) (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	UAL as a % of Covered Payroll [(b) - (a)] / (c)
1996	\$ 3,262,619,379	\$ 10,330,788,316	\$ 7,068,168,937	31.6%	\$ 2,878,329,486	245.6%
1997	3,750,138,439	11,044,660,156	7,294,521,717	34.0	2,984,603,913	244.4
1998	4,266,312,063	11,780,174,095	7,513,862,032	36.2	3,094,940,606	242.8
1999	4,970,720,334	12,670,924,443	7,700,204,109	39.2	3,294,326,130	233.7
2000	5,578,046,785	13,115,065,443	7,537,018,658	42.5	3,192,604,492	236.1
2001	5,810,759,564	13,523,825,973	7,713,066,409	43.0	3,318,877,027	232.4
2002	6,176,574,529	14,664,661,236	8,488,086,707	42.1	3,609,470,436	235.2
2003	6,554,364,927	14,747,339,056	8,192,974,129	44.4	3,585,134,913	228.5
2004	6,804,394,627	15,197,925,988	8,393,531,361	44.8	3,651,653,125	229.9
2005	7,065,299,476	16,264,893,444	9,199,593,968	43.4	3,734,329,113	246.4
2006	7,686,688,965	17,365,572,132	9,678,883,167	44.3	3,802,721,221	254.5
2007	8,476,559,086	18,815,812,935	10,339,253,849	45.1	4,267,995,166	242.3
2008	9,034,047,394	18,750,062,742	9,716,015,348	48.2	4,348,535,867	223.4
2009	8,029,820,891	19,162,625,560	11,132,804,669	41.9	4,339,032,221	256.6
2010	8,804,963,622	19,896,625,065	11,091,661,443	44.3	4,312,610,704	257.2
2011	8,892,059,345	20,315,242,855	11,423,183,510	43.8	4,269,943,587	267.5

Schedule of Employer Contributions

Fiscal Year Ending	Valuation Date June 30	Annual Required Contribution	Actual Employer Contribution	Percentage Contributed
1998	1996	\$ 508,940,065	\$ 465,350,488	91.4%
1999	1997	508,259,679	612,349,218	120.5
2000	1998	524,815,537	647,441,260	123.4
2001	1999	547,532,673	689,219,756	125.9
2002	2000	537,789,669	566,226,658	105.3
2003	2001	572,226,197	602,231,775	105.2
2004	2002	638,541,074	438,180,343	68.6
2005	2003	619,186,005	484,778,888	78.3
2006	2004	672,555,533	701,340,085	104.3
2007	2005	742,882,002	753,039,657	101.4
2008	2006	800,059,308	808,128,686	101.0
2009	2007	819,638,258	853,790,969	104.2
2010	2008	952,120,349	885,639,968	93.0
2011	2009	1,048,649,181	915,611,470	87.3
2012	2010	1,039,857,902		
2013	2011	1,062,667,210		

GASB Statements No. 25 and No. 27

Development of the Net Pension Obligation (NPO)

Pre-1996 Account

\$000's	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Fiscal Year	ARC	Interest on NPO	ARC Adjustment (8) / (4)	Amortization Factor	Net Cost (1) + (2) - (3)	Actual Employer Contribution	Change in NPO (5) - (6)	NPO at BOY	NPO at EOY (7) + (8)
1988	\$ 214,776	\$ 0	\$ 0	12.5944	\$ 214,776	\$ 149,987	\$ 64,789	\$ 0	\$ 64,789
1989	236,695	4,859	5,144	12.5944	236,410	162,431	73,979	64,789	138,768
1990	236,695	10,408	11,018	12.5944	236,084	201,260	34,824	138,768	173,592
1991	319,429	13,019	13,783	12.5944	318,665	241,400	77,265	173,592	250,857
1992	357,575	18,814	19,918	12.5944	356,471	206,626	149,845	250,857	400,703
1993	394,291	30,053	31,816	12.5944	392,528	204,081	188,447	400,703	589,149
1994	416,022	44,186	46,779	12.5944	413,430	230,795	182,635	589,149	771,784
1995	436,399	57,884	61,280	12.5944	433,003	239,177	193,826	771,784	965,610
1996	456,847	72,421	76,670	12.5944	452,598	307,337	145,261	965,610	1,110,871
1997	481,927	83,315	88,204	12.5944	477,039	519,844	(42,805)	1,110,871	1,068,065
1998	502,040	80,105	84,805	12.5944	497,340	436,138	61,202	1,068,065	1,129,268
1999	484,671	84,695	89,664	12.5944	479,702	571,157	(91,455)	1,129,268	1,037,812
2000	486,946	77,836	82,403	12.5944	482,379	593,045	(110,666)	1,037,812	927,147
2001	494,779	69,536	73,616	12.5944	490,699	623,982	(133,283)	927,147	793,864
2002	474,274	59,540	63,312	12.5390	470,502	482,681	(12,179)	793,864	781,685
2003	496,034	58,626	62,638	12.4794	492,022	508,148	(16,126)	781,685	765,559
2004	532,326	57,417	61,662	12.4154	528,081	357,799	170,282	765,559	935,841
2005	516,267	70,188	75,798	12.3465	510,657	394,387	116,270	935,841	1,052,111
2006	556,460	78,908	89,083	11.8104	546,285	601,259	(54,974)	1,052,111	997,137
2007	602,904	74,785	85,253	11.6962	592,436	636,039	(43,603)	997,137	953,534
2008	678,050	71,515	82,390	11.5734	667,175	675,682	(8,507)	953,534	945,027
2009	700,307	70,877	80,017	11.8104	691,168	706,366	(15,198)	945,027	929,829
2010	850,493	69,737	78,730	11.8104	841,500	727,766	113,734	929,829	1,043,563
2011	894,507	73,049	84,097	12.4090	883,459	748,978	134,481	1,043,563	1,178,044

1996 Account

\$000's	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Fiscal Year	ARC	Interest on NPO	ARC Adjustment (8) / (4)	Amortization Factor	Net Cost (1) + (2) - (3)	Actual Employer Contribution	Change in NPO (5) - (6)	NPO at BOY	NPO at EOY (7) + (8)
1998	\$ 6,900	\$ 0	\$ 0	12.5944	\$ 6,900	\$ 29,212	\$ (22,312)	\$ 0	\$ (22,312)
1999	23,589	(1,673)	(1,772)	12.5944	23,688	41,192	(17,504)	(22,312)	(39,816)
2000	37,870	(2,986)	(3,161)	12.5944	38,045	54,396	(16,351)	(39,816)	(56,167)
2001	52,754	(4,213)	(4,460)	12.5944	53,001	65,238	(12,237)	(56,167)	(68,404)
2002	63,516	(5,130)	(5,455)	12.5390	63,841	83,546	(19,705)	(68,404)	(88,109)
2003	76,192	(6,608)	(7,060)	12.4794	76,644	94,083	(17,439)	(88,109)	(105,548)
2004	106,215	(7,916)	(8,501)	12.4154	106,800	80,381	26,419	(105,548)	(79,129)
2005	102,919	(5,935)	(6,409)	12.3465	103,393	90,392	13,001	(79,129)	(66,128)
2006	116,096	(4,960)	(5,599)	11.8104	116,735	100,081	16,654	(66,128)	(49,474)
2007	139,978	(3,711)	(4,230)	11.6962	140,497	117,001	23,496	(49,474)	(25,978)
2008	122,009	(1,948)	(2,245)	11.5734	122,306	132,447	(10,141)	(25,978)	(36,119)
2009	119,331	(2,709)	(3,058)	11.8104	119,680	147,425	(27,745)	(36,119)	(63,864)
2010	101,627	(4,790)	(5,407)	11.8104	102,244	157,874	(55,630)	(63,864)	(119,494)
2011	154,142	(8,365)	(9,630)	12.4090	155,407	166,633	(11,226)	(119,494)	(130,720)

ARC = Annual Required Contribution
 BOY = Beginning of Year
 EOY = End of Year

Additional Information:

Annual actuarial valuation reports not issued for FY1988 & FY1990 – valuations conducted bi-annually prior to FY1991.
 Assumed 40-year amortization period for FY1988 – FY1997 since annual actuarial valuation reports were not retained prior to FY1998.

GASB Statements No. 25 and No. 27

Statement of Plan Net Assets

Assets

Cash and Cash Equivalents	\$ 730,869,000
Securities Lending Collateral	0
Receivables	
Employer Contributions	\$ 35,909,000
Due from PERF	1,054,000
Member Contributions	24,500,000
Member Benefits	331,000
Securities Sold	346,585,000
Interest and Dividends	<u>34,167,000</u>
Total Receivables	\$ 442,546,000
Investments	
Equity Securities	\$ 3,287,935,000
Debt Securities	4,438,726,000
Other	<u>978,279,000</u>
Total Investments	\$ 8,704,940,000
Capitalized Assets	<u>3,009,000</u>
Total Assets	\$ 9,881,364,000

Liabilities

Accrued Benefits Payable	\$ 99,075,000
Accrued Salaries Payable	111,000
Accrued Liability for Compensated Absences - Current	70,000
Accounts Payable	10,656,000
Due to PERF	738,000
Securities Lending Collateral	0
Payables for Securities Purchased	<u>648,917,000</u>
Total Current Liabilities	\$ 759,567,000
Accrued Liability for Compensated Absences - Long-Term	<u>60,000</u>
Total Liabilities	\$ <u>759,627,000</u>

Net Assets Held in Trust for Pension Benefits **\$ 9,121,737,000**

GASB Statements No. 25 and No. 27

Statement of Changes in Plan Net Assets

	6/30/2010 thru 6/30/2011
Net Assets at Beginning of Year	\$ 8,140,769,000
Additions	
Contributions	
Member Contributions	\$ 126,784,000
Employer Contributions	880,611,000
Employer Contributions - Pension Stabilization	<u>35,000,000</u>
Total Contributions	\$ 1,042,395,000
Investments	
Net Appreciation / (Depreciation) in Fair Value	\$ 1,012,842,000
Interest and Dividend Income	202,562,000
Securities Lending Income	2,720,000
Less Investment Expenses	
Investment Fees	(40,233,000)
Securities Lending Fees	<u>(502,000)</u>
Net Investment Income	\$ 1,177,389,000
Other Additions	
Transfers from Other Retirement Funds	<u>\$ 8,827,000</u>
Total Other Additions	<u>\$ 8,827,000</u>
Total Additions	\$ 2,228,611,000
Deductions	
Pension and Disability Benefits	\$ 1,210,999,000
Distributions of Contributions and Interest	20,565,000
Administrative Expenses	9,020,000
Project Expenditures	1,630,000
Depreciation and Amortization Expenses	190,000
Transfers to Other Retirement Funds	<u>5,239,000</u>
Total Deductions	<u>\$ 1,247,643,000</u>
Change in Net Assets Held in Trust for Pension Benefits	\$ 980,968,000
Net Assets at End of Year	\$ 9,121,737,000

Member Data

The tables below summarize the member data used in the valuation. The pages that follow show various distributions of the member groups.

Pre-1996 Account

	Males	Females	Total
Number of Actives	6,448	18,262	24,710
- Average Age	54.7	54.4	54.5
- Average Service	28.3	26.4	26.9
- Average Pay	\$ 76,152	\$ 69,638	\$ 71,338
Number of Vested Inactives	937	2,984	3,921
- Average Age	58.0	57.3	57.4
- Average Service	23.2	20.1	20.8
Number of Nonvested Inactives	1,024	2,571	3,595
Number of Retirees and Beneficiaries	15,768	29,653	45,421
- Average Age	71.8	72.4	72.2
- Average Years Retired	12.4	12.9	12.7
- Average Monthly Annuity	\$ 215	\$ 168	\$ 185
- Average Monthly Pension	\$ 1,554	\$ 1,282	\$ 1,376
Total Number of Members	24,177	53,470	77,647

1996 Account

	Males	Females	Total
Number of Actives	12,536	34,097	46,633
- Average Age	39.1	39.2	39.2
- Average Service	10.0	9.2	9.4
- Average Pay	\$ 59,134	\$ 51,790	\$ 53,764
Number of Vested Inactives	695	2,020	2,715
- Average Age	49.2	50.9	50.5
- Average Service	15.8	14.7	15.0
Number of Nonvested Inactives	5,891	17,682	23,573
Number of Retirees and Beneficiaries	1,007	1,547	2,554
- Average Age	65.8	66.0	65.9
- Average Years Retired	6.5	6.2	6.3
- Average Monthly Annuity	\$ 194	\$ 141	\$ 162
- Average Monthly Pension	\$ 1,665	\$ 1,228	\$ 1,400
Total Number of Members	20,129	55,346	75,475

Total Fund

	Males	Females	Total
Number of Actives	18,984	52,359	71,343
- Average Age	44.4	44.5	44.5
- Average Service	16.2	15.2	15.5
- Average Pay	\$ 64,914	\$ 58,015	\$ 59,851
Number of Vested Inactives	1,632	5,004	6,636
- Average Age	54.2	54.7	54.6
- Average Service	20.0	17.9	18.4
Number of Nonvested Inactives	6,915	20,253	27,168
Number of Retirees and Beneficiaries	16,775	31,200	47,975
- Average Age	71.5	72.1	71.9
- Average Years Retired	12.1	12.5	12.4
- Average Monthly Annuity	\$ 214	\$ 167	\$ 183
- Average Monthly Pension	\$ 1,561	\$ 1,279	\$ 1,377
Total Number of Members	44,306	108,816	153,122

Active Members: Pre-1996 Account

By Attained Age and Years of Service

Attained Age	Years of Service to Valuation Date							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
15-19	-	-	-	-	-	-	-	-
20-24	-	-	-	-	-	-	-	-
25-29	1	-	-	-	-	-	-	1
30-34	1	-	-	-	-	-	-	1
35-39	15	17	30	176	-	-	-	238
40-44	74	90	108	1,690	515	-	-	2,477
45-49	35	75	65	638	1,850	782	1	3,446
50-54	23	40	45	538	1,028	2,246	951	4,871
55-59	26	29	50	574	992	1,190	4,289	7,150
60-64	28	31	38	298	700	823	3,482	5,400
65-69	12	10	23	47	97	129	686	1,004
70-74	4	4	1	8	7	10	64	98
75-79	-	6	1	1	-	-	8	16
80 & Over	-	-	4	2	-	-	2	8
Total	219	302	365	3,972	5,189	5,180	9,483	24,710

Average Age: 54.5
Average Service: 26.9

Active Members: 1996 Account

By Attained Age and Years of Service

Attained Age	Years of Service to Valuation Date							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
15-19	-	-	-	-	-	-	-	-
20-24	937	1	-	-	-	-	-	938
25-29	5,835	2,157	-	-	-	-	-	7,992
30-34	2,002	6,096	1,767	-	-	-	-	9,865
35-39	1,067	2,032	4,421	916	-	-	-	8,436
40-44	904	1,390	2,023	1,805	203	2	-	6,327
45-49	631	961	1,240	698	558	133	-	4,221
50-54	465	739	1,143	687	338	358	107	3,837
55-59	260	423	769	616	297	204	311	2,880
60-64	166	216	434	377	231	99	202	1,725
65-69	37	62	95	61	36	14	24	329
70-74	21	15	9	4	3	1	1	54
75-79	12	6	8	-	-	-	-	26
80 & Over	1	1	1	-	-	-	-	3
Total	12,338	14,099	11,910	5,164	1,666	811	645	46,633

Average Age: 39.2
Average Service: 9.4

Inactive Vested Members: Pre-1996 Account

By Attained Age and Years of Service

Attained Age	Years of Service at Termination							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
35-39	-	-	21	4	-	-	-	25
40-44	-	-	142	75	13	-	-	230
45-49	-	-	209	130	83	10	-	432
50-54	-	-	186	172	113	110	21	602
55-59	-	-	298	225	193	117	259	1,092
60-64	-	-	356	152	139	96	373	1,116
65-69	-	-	73	29	43	34	118	297
70-74	-	-	6	1	5	1	12	25
75-79	-	-	6	2	-	2	2	12
80 & Over	-	-	63	19	5	-	3	90
Total	-	-	1,360	809	594	370	788	3,921

Average Age: 57.4
Average Service: 20.8

Inactive Vested Members: 1996 Account

By Attained Age and Years of Service

Attained Age	Years of Service at Termination							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
20-24	-	-	1	-	-	-	-	1
25-29	-	-	-	-	-	-	-	-
30-34	-	-	43	-	-	-	-	43
35-39	-	-	342	26	-	-	-	368
40-44	-	-	315	109	9	-	-	433
45-49	-	-	205	105	55	4	1	370
50-54	-	-	245	117	65	28	9	464
55-59	-	-	263	133	73	33	25	527
60-64	-	-	213	98	43	22	27	403
65-69	-	-	53	20	6	7	8	94
70-74	-	-	5	2	-	1	-	8
75-79	-	-	3	1	-	-	-	4
80 & Over	-	-	-	-	-	-	-	-
Total	-	-	1,688	611	251	95	70	2,715

Average Age: 50.5
Average Service: 15.0

Retired Members: Pre-1996 Account

By Attained Age and Completed Years of Retirement

Attained Age	Years of Retirement							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
Under 40	20	40	11	12	3	2	2	90
40-44	7	14	4	4	1	-	-	30
45-49	5	10	16	6	3	1	1	42
50-54	67	28	29	21	16	1	1	163
55-59	1,437	174	59	40	17	8	6	1,741
60-64	4,714	3,485	263	86	49	17	10	8,624
65-69	2,805	4,357	2,742	300	74	31	10	10,319
70-74	475	1,909	3,297	1,759	277	54	22	7,793
75-79	24	352	1,694	2,610	1,002	281	52	6,015
80-84	12	72	266	1,631	2,060	662	266	4,969
85-89	8	15	36	235	1,261	1,203	498	3,256
90-94	6	2	8	22	124	700	812	1,674
95-99	1	-	3	1	2	57	521	585
100 & Over	2	1	-	-	-	2	115	120
Total	9,583	10,459	8,428	6,727	4,889	3,019	2,316	45,421

Average Age: 72.2
Average Years Retired: 12.7

Retired Members: 1996 Account

By Attained Age and Completed Years of Retirement

Attained Age	Years of Retirement							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
Under 40	5	5	-	-	-	-	-	10
40-44	2	6	1	-	-	-	-	9
45-49	4	5	2	-	-	-	-	11
50-54	26	7	3	-	-	-	-	36
55-59	168	34	5	1	1	-	-	209
60-64	490	282	24	2	-	-	-	798
65-69	363	337	163	5	-	-	-	868
70-74	55	173	127	33	4	-	-	392
75-79	10	29	48	44	10	-	-	141
80-84	2	7	4	25	19	2	1	60
85-89	-	1	3	-	9	3	-	16
90 & Over	-	-	-	1	1	1	1	4
Total	1,125	886	380	111	44	6	2	2,554

Average Age: 65.9
Average Years Retired: 6.3

Retired Members: Pre-1996 Account

By Year of Retirement

Year of Retirement As of June 30	Number	Monthly Pension	
		Total	Average
Before 1977	731	\$ 327,071	\$ 447
1977	161	92,973	577
1978	236	136,628	579
1979	290	170,402	588
1980	358	229,617	641
1981	354	215,567	609
1982	354	221,523	626
1983	452	296,965	657
1984	515	348,033	676
1985	740	534,632	722
1986	644	484,046	752
1987	782	627,091	802
1988	896	762,892	851
1989	724	649,276	897
1990	1,131	1,149,640	1,016
1991	1,130	1,241,842	1,099
1992	1,023	1,152,768	1,127
1993	1,089	1,315,474	1,208
1994	1,213	1,506,286	1,242
1995	1,568	2,017,683	1,287
1996	1,549	2,029,916	1,310
1997	1,346	1,758,928	1,307
1998	1,697	2,200,047	1,296
1999	1,572	2,151,131	1,368
2000	1,824	2,595,193	1,423
2001	1,812	2,645,996	1,460
2002	2,112	3,067,946	1,453
2003	1,867	2,787,882	1,493
2004	2,173	3,275,603	1,507
2005	2,078	3,354,589	1,614
2006	2,255	3,758,901	1,667
2007	2,140	3,581,792	1,674
2008	2,565	4,470,130	1,743
2009	1,863	3,374,996	1,812
2010	2,093	3,915,038	1,871
2011	2,084	4,061,284	1,949
Total	45,421	\$ 62,509,781	\$ 1,376

Retired Members: 1996 Account

By Year of Retirement

Year of Retirement As of June 30	Number	Monthly Pension	
		Total	Average
1975	1	\$ 287	\$ 287
1981	1	259	259
1982	1	936	936
1986	2	1,562	781
1987	5	3,335	667
1988	4	2,621	655
1989	5	3,767	753
1990	11	10,280	935
1991	14	13,400	957
1992	12	14,384	1,199
1993	8	7,935	992
1994	17	21,906	1,289
1995	27	31,441	1,164
1996	33	42,093	1,276
1997	31	37,859	1,221
1998	45	53,421	1,187
1999	51	66,913	1,312
2000	83	104,720	1,262
2001	108	142,180	1,316
2002	141	201,092	1,426
2003	170	231,043	1,359
2004	195	262,913	1,348
2005	172	253,809	1,476
2006	172	241,548	1,404
2007	196	258,739	1,320
2008	250	369,175	1,477
2009	237	346,198	1,461
2010	278	404,258	1,454
2011	284	448,644	1,580
Total	2,554	\$ 3,576,718	\$ 1,400

This schedule may include individuals who retired from the Pre-1996 Account, returned to work, and then retired again (from the 1996 Account).

Retired Members

Reconciliation of Benefit Recipients, July 1, 2010 to July 1, 2011

Pre-1996 Account

	Number of Members	Sum of Annual Allowances*
Beginning of Year Rolls	43,478	\$ 790,772,772
Added to Rolls	3,003	77,289,770
Removed from Rolls	(1,060)	(13,120,581)
Net Transfers to 1996 Account	0	0
Benefit Changes		(4,230,857)
End of Year Rolls	45,421	\$ 850,711,104
Percentage Increase in Annual Allowances		7.58%
Average Annual Allowances		\$ 18,729

1996 Account

	Number of Members	Sum of Annual Allowances*
Beginning of Year Rolls	2,181	\$ 40,701,096
Added to Rolls	390	7,665,877
Removed from Rolls	(17)	(253,436)
Net Transfers to Pre-1996 Account	0	0
Benefit Changes		(226,865)
End of Year Rolls	2,554	\$ 47,886,672
Percentage Increase in Annual Allowances		17.65%
Average Annual Allowances		\$ 18,750

* Pension and ASA annuity

Retired Members

Number of Benefit Recipients by Benefit Option

Pre-1996 Account

Amount of Monthly Benefit ¹	Option A-1	Option A-2	Option A-3	Option B-1	Option B-2	Option B-3	Survivors	Disability	Total
\$1-\$500	2,687	1,271	310	1,443	424	619	649	111	7,514
\$501-\$1,000	2,430	1,722	414	2,582	837	1,031	259	203	9,478
\$1,001-\$1,500	2,990	2,254	392	3,838	1,249	1,298	121	197	12,339
\$1,501-\$2,000	2,310	2,194	271	3,065	1,044	1,247	108	93	10,332
\$2,001-\$3,000	1,282	1,310	148	1,374	519	648	36	13	5,330
Over \$3,000	102	95	11	111	56	53	0	0	428
Total	11,801	8,846	1,546	12,413	4,129	4,896	1,173	617	45,421

1996 Account

Amount of Monthly Benefit	Option A-1	Option A-2	Option A-3	Option B-1	Option B-2	Option B-3	Survivors	Disability	Total
\$1-\$500	147	80	16	94	13	20	21	43	434
\$501-\$1,000	166	127	41	154	26	47	17	33	611
\$1,001-\$1,500	153	97	25	153	38	52	3	10	531
\$1,501-\$2,000	115	91	16	136	43	58	4	5	468
\$2,001-\$3,000	80	76	12	151	34	59	3	4	419
Over \$3,000	18	22	1	28	11	10	1	0	91
Total	679	493	111	716	165	246	49	95	2,554

¹Pension only

Summary of Benefit Options

- A-1 - Provides a monthly benefit for retiree's life. In the event the retiree dies before receiving five years of payments, the beneficiary receives the remainder of the five years (60 months) of guaranteed Defined Benefit pension payments in a lump sum.
- A-2 - Provides a monthly benefit for retiree's life. The benefit ceases upon the death of the retiree.
- A-3 - Provides a monthly benefit for retiree's life, including monthly annuitization of member's Annuity Savings Account (ASA). In the event the retiree dies before receiving five years of payments, the beneficiary will receive the remainder of the five years of guaranteed pension payments. The ASA is reduced with each monthly benefit paid; if the retiree dies before reducing the balance to \$0.00, the beneficiary will receive a single payment of the amount remaining.
- B-1 - Provides a monthly benefit for retiree's life. Upon the death of the retiree, the qualified designated survivor receives 100% of the member's Defined Benefit for the remainder of the survivor's life.
- B-2 - Provides a monthly benefit for retiree's life. Upon the death of the retiree, the qualified designated survivor receives 66-2/3% of the member's Defined Benefit for the remainder of the survivor's life.
- B-3 - Provides a monthly benefit for retiree's life. Upon the death of the retiree, the qualified designated survivor receives 50% of the member's Defined Benefit for the remainder of the survivor's life.
- Survivors* - Provides a monthly benefit for the surviving spouse's or dependent's life. The benefit ceases upon death of the survivor.
- Disability** - Available to members with five (5) or more years of creditable service who become disabled as determined by the Social Security Administration while teaching in Indiana.

* (of members who die while in service)

** Includes Classroom Disability – Provides a benefit of \$125 per month plus \$5 for each additional year of TRF-covered service over five years

Retired Members

Schedule of Average Benefit Payments by Service at Retirement

Pre-1996 Account

	Years of Service at Retirement						Total
	<10	10-14	15-19	20-24	25-29	30+	
Avg. Monthly Defined Benefit Pension	\$239	\$250	\$493	\$785	\$1,130	\$1,722	\$1,376
Avg. Monthly Annuity	\$15	\$99	\$96	\$125	\$154	\$220	\$185
Avg. Final Avg. Salary at Retirement	\$20,085	\$21,205	\$33,684	\$40,472	\$45,837	\$52,751	\$47,787
Number of Benefit Recipients	37	1,170	3,735	5,252	7,467	27,760	45,421

1996 Account

	Years of Service at Retirement						Total
	<10	10-14	15-19	20-24	25-29	30+	
Avg. Monthly Defined Benefit Pension	\$241	\$419	\$665	\$963	\$1,381	\$2,080	\$1,400
Avg. Monthly Annuity	\$25	\$76	\$92	\$122	\$188	\$216	\$162
Avg. Final Avg. Salary at Retirement	\$37,883	\$40,581	\$47,337	\$54,686	\$59,531	\$67,586	\$58,202
Number of Benefit Recipients	27	247	453	341	363	1,123	2,554

Reconciliation of Participant Data: Total Fund

	Active	Deferred Vested	Nonvested	Survivor	Disabled	Retired	Beneficiary	Total
6/30/2010 Valuation	72,872	7,670	35,847	1,235	692	40,502	3,230	162,048
Disabled	(12)	(24)			36			0
Retired	(958)	(2,335)				3,293		0
Terminated with Vested Benefit	(1,567)	1,567						0
Terminated, due a Refund	(2,314)		2,314					0
Died with Survivor	(16)	(19)		30	(7)	(302)	314	0
Died, no Survivor*	(4)	(9)		(42)	(10)	(792)	(178)	(1,035)
Refunded*	(173)	(57)	(10,298)					(10,528)
Dropped from Data	(11)	(53)	(30)	(3)	(3)	(49)		(149)
Rehired	905	(186)	(719)					0
Status Changes		79	(82)		1	2		0
Data Corrections		3	136	2		6	18	165
New Hires	2,621							2,621
6/30/2011 Valuation	71,343	6,636	27,168	1,222	709	42,660	3,384	153,122

* No remaining benefit obligation in the plan.

Reconciliation of Participant Data: Pre-1996 Account

	Active	Deferred Vested	Nonvested	Survivor	Disabled	Retired	Beneficiary	Total
6/30/2010 Valuation	26,439	5,209	8,149	1,194	612	38,481	3,191	83,275
Disabled	(7)	(14)			21			0
Retired	(841)	(2,088)				2,929		0
Terminated with Vested Benefit	(970)	970						0
Terminated, due a Refund	(79)		79					0
Died with Survivor	(12)	(14)		22	(7)	(295)	306	0
Died, no Survivor*	(4)	(8)		(42)	(9)	(777)	(177)	(1,017)
Refunded*	(7)	(19)	(4,554)					(4,580)
Dropped from Data	(2)	(41)	(10)	(3)	(3)	(49)		(108)
Rehired	147	(88)	(59)					0
Status Changes		13	(14)			1		0
Data Corrections		1	4	2		6	18	31
Moved to Pre-1996 Account								0
Moved from Pre-1996 Account								0
New Hires	46							46
6/30/2011 Valuation	24,710	3,921	3,595	1,173	614	40,296	3,338	77,647

* No remaining benefit obligation in the plan.

Reconciliation of Participant Data: 1996 Account

	Active	Deferred Vested	Nonvested	Survivor	Disabled	Retired	Beneficiary	Total
6/30/2010 Valuation	46,433	2,461	27,698	41	80	2,021	39	78,773
Disabled	(5)	(10)			15			0
Retired	(117)	(247)				364		0
Terminated with Vested Benefit	(597)	597						0
Terminated, due a Refund	(2,235)		2,235					0
Died with Survivor	(4)	(5)		8		(7)	8	0
Died, no Survivor*		(1)			(1)	(15)	(1)	(18)
Refunded*	(166)	(38)	(5,744)					(5,948)
Dropped from Data	(9)	(12)	(20)					(41)
Rehired	758	(98)	(660)					0
Status Changes		66	(68)		1	1		0
Data Corrections		2	132					134
Moved to 1996 Account								0
Moved from 1996 Account								0
New Hires	2,575							2,575
6/30/2011 Valuation	46,633	2,715	23,573	49	95	2,364	46	75,475

* No remaining benefit obligation in the plan.

Closed Group Projection: Pre-1996 Account

The schedules on the following pages for the Pre-1996 Account were produced by means of an actuarial projection.

Whereas actuarial valuations provide a snapshot of the Retirement Fund as of a given date, actuarial projections provide a moving picture of Retirement Fund activities. The projected active and retired groups are developed from year to year by applying assumptions regarding pre-retirement withdrawal from service, retirements, deaths, and disabilities. Projected information regarding plan activity produces an expected future benefit payment stream.

Projection results are useful in demonstrating changing relationships among key elements affecting system financial activity. For example, the relationship between annual benefits paid and assets will change over time. Projections are not predictions of specific future events and do not provide numeric precision in absolute terms. The future pension benefits shown in the table are estimates. Actual payments will likely differ from the amounts shown; however, understanding the relative growth is critical.

Closed Group Projection: Pre-1996 Account

\$Millions

Fiscal Year	Active Members		Inactive Members	
	Number*	Payroll*	Number*	Pension Benefits Paid*
2012	24,710	\$ 1,762.8	49,342	\$ 828.8
2013	22,040	1,627.4	50,956	854.0
2014	19,614	1,497.9	52,282	901.9
2015	17,403	1,373.9	53,339	948.0
2016	15,377	1,254.7	54,151	990.6
2017	13,546	1,141.9	54,660	1,026.5
2018	11,889	1,034.9	54,939	1,057.8
2019	10,395	934.4	54,998	1,085.2
2020	9,055	840.2	54,850	1,108.3
2021	7,853	752.2	54,509	1,127.1
2022	6,781	670.3	53,981	1,141.8
2023	5,823	594.3	53,274	1,152.6
2024	4,972	523.7	52,400	1,159.4
2025	4,213	458.0	51,378	1,162.9
2026	3,525	395.5	50,233	1,162.4
2027	2,909	336.9	48,967	1,158.1
2028	2,363	282.6	47,580	1,149.4
2029	1,897	234.2	46,065	1,136.1
2030	1,505	191.9	44,429	1,118.9
2031	1,174	154.6	42,685	1,097.2
2032	901	122.6	40,853	1,071.3
2033	676	95.0	38,953	1,041.0
2034	498	72.3	37,006	1,006.7
2035	359	53.8	35,022	968.9
2036	253	39.1	33,004	928.1
2037	174	27.9	30,966	884.9
2038	117	19.3	28,924	839.7
2039	76	13.0	26,895	793.0
2040	48	8.5	24,898	745.7
2041	27	5.0	22,951	698.1

*Active and inactive (includes Retired, Beneficiary, Survivor, Disabled and Deferred Vested Members) number counts are as of the beginning of the fiscal year. Payroll and benefits paid are expected amounts during the fiscal year. Pension benefits paid reflects the expected defined benefit pension payments (excluding ASA annuities).

Projections are intended to demonstrate the pattern of future activities and should not be viewed as a prediction of specific dollar amounts in any year.

Closed Group Projection: Pre-1996 Account (Continued)

\$Millions

Fiscal Year	Active Members		Inactive Members	
	Number*	Payroll*	Number*	Pension Benefits Paid*
2042	14	\$ 2.5	21,065	\$ 650.6
2043	5	1.0	19,256	603.7
2044	1	0.3	17,533	557.9
2045	1	0.1	15,906	513.6
2046	-	-	14,380	471.2
2047	-	-	12,959	430.7
2048	-	-	11,644	392.4
2049	-	-	10,433	356.3
2050	-	-	9,322	322.4
2051	-	-	8,305	290.6
2052	-	-	7,378	261.0
2053	-	-	6,535	233.5
2054	-	-	5,769	207.9
2055	-	-	5,076	184.2
2056	-	-	4,448	162.4
2057	-	-	3,882	142.3
2058	-	-	3,373	124.0
2059	-	-	2,917	107.3
2060	-	-	2,510	92.2
2061	-	-	2,148	78.6

*Active and inactive (includes Retired, Beneficiary, Survivor, Disabled and Deferred Vested Members) number counts are as of the beginning of the fiscal year. Payroll and benefits paid are expected amounts during the fiscal year. Pension benefits paid reflects the expected defined benefit pension payments (excluding ASA annuities).

Projections are intended to demonstrate the pattern of future activities and should not be viewed as a prediction of specific dollar amounts in any year.

Summary of Benefit Provisions

Regular Retirement

Eligibility	Age 65 with ten years service or age 60 with 15 or more years of service or if age is at least 55 and the sum of age plus credited service is 85 or more.
Annual Amount	State pension equal to total service times 1.1% of Average Annual Compensation.

Early Retirement

Eligibility	Age 50 with 15 or more years of service.
Annual Amount	State pension is computed as regular retirement benefit, but reduced for each month between age at early retirement and attainment of age 65. The age reduction factor is calculated as the sum of the following: <ul style="list-style-type: none">• 1/10 of 1% for each month from age 60 to 65.• 5/12 of 1% for each month from age at early retirement to 60.

Deferred Retirement

Eligibility	Ten years of service. Benefit commences at regular or early retirement eligibility.
Annual Amount	Computed as a regular retirement benefit with state pension based on service and Average Annual Compensation at termination.

Disability Retirement

Regular Disability Benefit:

Eligibility	Five years of service.
Annual Amount	\$125 per month plus \$5 per month for each year of service credit over five years.

Disability Retirement Benefit:

Eligibility	Five years of service and determined to be disabled by the Social Security Administration. Annual verification of Social Security disability is required.
Annual Amount	Computed as a regular retirement benefit using creditable service to the date of disability and without reduction for early retirement. The minimum benefit is \$180 per month.

Summary of Benefit Provisions

Death Before Retirement

Eligibility	15 years of service. Spouse to whom member had been married for two or more years is automatically eligible, or a dependent may be designated as beneficiary.
Annual Amount	Computed as regular retirement benefit but reduced in accordance with a 100% joint and survivor election.

Benefit Increases After Retirement

No automatic increases after retirement are provided. Periodically, unscheduled increases have been made. In September 2011, retirees were paid a service-related lump sum ranging from \$150 to \$450.

Average Annual Compensation

Average of highest five years of compensation. Years do not need to be consecutive.

Member Contributions

All Fund members are required by state law to contribute 3% of salary contributions to their Annuity Savings Account. These 3% contributions are generally "picked up" by the employer and contributed on a pre-tax basis on behalf of the employee. Extra voluntary contributions by the member are also possible, but on a post-tax basis. At retirement, there are six alternatives for receiving the proceeds of this account, including lump sums, full and partial rollovers, full and partial annuitization of the balance, and deferred distribution.

Forms of Benefit Payment (Pension)

The normal form of benefit payment (Option A-1) is a single life annuity with a five-year certain period. There are five optional forms of payment available, as listed below. Additionally, members retiring between ages 50 and 62 may integrate their pension benefit with their Social Security benefit by choosing Social Security Integration (Option A-4) in conjunction with the normal form or any other optional form selected. Optional forms of payment are calculated on an actuarial equivalent basis.

- Option A-2: Straight Life benefit with no certain period
- Option A-3: Modified Cash Refund Annuity (operates in conjunction with the Annuity Savings Account)
- Option B-1: 100% Survivorship
- Option B-2: 66 2/3% Survivorship
- Option B-3: 50% Survivorship

State law provides for actuarially-adjusted and re-calculated benefits based on a new optional form election in the event of the death of the member's spouse after retirement.

Optional forms of benefit are calculated based on 7.5% interest with a 40%/60% unisex blend of the 1983 Group Annuity Male Mortality table set back three years and the 1983 Group Annuity Male Mortality table set back seven years.

Summary of Actuarial Assumptions and Methods

The assumptions used in this valuation reflect the study of experience covering the period July 1, 2002 through June 30, 2007.

Investment Return Rate	7.0% per year, compounded annually (net of all expenses paid from the plan).
Pay Increase Assumption	Sample increases are shown in a table on the following pages. The assumption for each consists of a merit and/or seniority increase, 3.0% for price inflation, and 0.25% for real wage growth.
Total Active Member Payroll	Assumed to annually increase 10% for the 1996 Account and decrease according to the projection in the Payout Projections section for the Pre-1996 Account for purposes of calculating the projected contribution for the 2013 fiscal year.
Price Inflation	3.0% per year. Price inflation is not directly tied to benefits; however, it is a component of the economic model used to determine total wage inflation.
Mortality <i>Healthy</i>	2008 IRS Static Mortality Table projected an additional 5 years (gender specific).
<i>Disabled</i>	2008 IRS Static Mortality Table projected an additional 5 years (gender specific).
Retirement	Probabilities are shown in tables on the following pages.
Withdrawal	Sample probabilities are shown in tables on the following pages.
Disability	Sample probabilities are shown in a table on the following pages.
Actuarial Cost Method	Entry Age Normal (level percent of pay) method, with a 30-year, closed, level dollar amortization of the Unfunded Accrued Liability arising from all sources including actuarial gains and losses.
Asset Valuation Method	The Actuarial Value of Assets recognizes investment gains and losses in equal installments over four years. However, the Actuarial Value is limited to no more than 20% greater than or 20% less than the Market Value of Assets. Investment experience on ASA account balances is not smoothed.
Marriage Assumption	100% of members are assumed to be married for purposes of valuing death-in-service benefits. Male spouses are assumed to be three years older than female spouses.
Pay Increase Timing	Beginning of (fiscal) year. Payroll amounts stated in the valuation data are amounts projected to be paid during the current year.
Decrement Timing	Decrements are assumed to occur at the beginning of the year.

Summary of Actuarial Assumptions and Methods

Other	Disability and withdrawal decrements do not operate after member reaches retirement eligibility. Only the withdrawal and death decrements operate during the first ten years of service.
Miscellaneous Adjustments	The calculated liabilities and normal costs were increased by 1% to account for the inclusion of unused sick leave in the calculation of Average Compensation.
Actuarial Equivalence Basis for Optional Forms of Payment	7.5% interest with a 40%/60% unisex blend of the 1983 Group Annuity Male Mortality table set back three years and the 1983 Group Annuity Male Mortality Table set back seven years.
Explicit Expense Load	None.
COLA Assumption	1.0% compounded annually on pension portion.
Employee Census and Asset Data	Census and asset information was furnished as of the valuation date by the Fund's Administrative Staff. Although examined thoroughly for reasonableness and consistency with prior years, the data was not otherwise audited by the Actuary.

The actuarial valuation computations were made under the supervision of a Member of the American Academy of Actuaries (MAAA).

Summary of Actuarial Assumptions and Methods

Probabilities of Age and Service Retirement

Regular Retirement		Rule of 85 Retirement		Early Retirement	
Age	Probability	Age	Probability	Age	Probability
				50-53	0.015
				54	0.030
		55	0.160	55	0.040
		56	0.130	56	0.050
		57	0.135	57	0.060
		58	0.145	58	0.070
		59	0.160	59	0.080
60	0.180	60	0.180		
61	0.220	61	0.220		
62	0.250	62	0.250		
63	0.200	63	0.200		
64	0.250	64	0.250		
65	0.350	65	0.350		
66	0.300	66	0.300		
67	0.200	67	0.200		
68	0.250	68	0.250		
69	0.300	69	0.300		
70	1.0000	70	1.0000		

Probabilities of Disability

Attained Age	Age-Based	
	Male	Female
25	0.0001	0.0001
30	0.0001	0.0001
35	0.0001	0.0001
40	0.0001	0.0001
45	0.0002	0.0002
50	0.0005	0.0005
55	0.0009	0.0009
60	0.0010	0.0010

Summary of Actuarial Assumptions and Methods

Probabilities of Withdrawal

Years of Service	Service-Based	
	Male	Female
0	0.3500	0.3500
1	0.1400	0.1500
2	0.1000	0.1200
3	0.0800	0.0950
4	0.0600	0.0850
5	0.0500	0.0750
6	0.0450	0.0650
7	0.0400	0.0550
8	0.0350	0.0500
9	0.0300	0.0450

Attained Age	Age-Based*	
	Male	Female
25	0.0250	0.0400
30	0.0250	0.0400
35	0.0230	0.0340
40	0.0180	0.0200
45	0.0130	0.0150
50	0.0350	0.0350
55	0.0350	0.0350
60	0.0350	0.0350

**Age-Based rates apply only if 10 or more years of service.*

Summary of Actuarial Assumptions and Methods

Pay Increase Assumption

Years of Service	Merit & Seniority	Inflation	Real Wage Growth	Total
1	9.25%	3.00%	0.25%	12.50%
5	4.50%	3.00%	0.25%	7.75%
10	3.25%	3.00%	0.25%	6.50%
15	2.00%	3.00%	0.25%	5.25%
20	0.75%	3.00%	0.25%	4.00%
25	0.25%	3.00%	0.25%	3.50%
30	0.25%	3.00%	0.25%	3.50%
35	0.25%	3.00%	0.25%	3.50%
40	0.25%	3.00%	0.25%	3.50%

Definitions of Technical Terms

Accrued Service	Service credited under the system that was rendered before the date of the actuarial valuation.
Accrued Liability	The difference between the actuarial present value of future benefit payments and the actuarial present value of future normal costs. Also referred to as “actuarial accrued liability” or “past service liability”.
Actuarial Assumptions	Estimates of expected future experience with respect to rates of mortality, disability, turnover, retirement, rate of investment return, and pay increases. Decrement assumptions (rates of mortality, disability, turnover, and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (pay increases and investment return) consist of the underlying rates in an inflation-free environment plus a provision for a long-term average rate of inflation.
Actuarial Cost Method	A mathematical budgeting procedure for allocating the dollar amount of the “actuarial present value of future benefit payments” between future normal costs and actuarial accrued liabilities. Sometimes referred to as the “actuarial funding method”.
Actuarial Equivalent	One series of payments is said to be actuarially equivalent to another series of payments if the two series have the same actuarial present value.
Actuarial Gain /(Loss)	The difference between actual unfunded actuarial accrued liability and anticipated unfunded actuarial accrued liability — during the period between two valuation dates. It is a measurement of the difference between actual and expected experience.
Actuarial Present Value	The single amount now that is equal to a payment or series of payments in the future. It is determined by discounting future payments at predetermined rates of interest and by probabilities of payment.
Amortization	Paying off a present value with periodic payments.
Normal Cost	The portion of the actuarial present value of future benefits that is assigned to the current year by the actuarial cost method. Sometimes referred to as “current cost”.
Unfunded Accrued Liability	The difference between the accrued liability and the actuarial value of assets. Sometimes referred to as “unfunded past service liability” or “unfunded actuarial accrued liability” or simply as “unfunded liability”.

The Actuarial Valuation Process

The **actuarial valuation** is the mathematical process by which a contribution rate is determined. The flow of activity constituting the valuation may be summarized as follows:

Covered Person Data: Furnished by the Plan Administrator

Retired Members and Beneficiaries Now Receiving Benefits
Former Employees with Vested Benefits Not Yet Payable
Active Members

+ **Asset Data (Cash and Investments):** Furnished by the Plan Administrator

+ **Estimates of Future Experience (Actuarial Assumptions):** Established by the Board of Trustees after Consulting with the Actuary

+ **Funding Method:** The Allocation of Employer Costs to Past Service, Current Service, and Future Service

+ **Mathematically Combining the Assumptions, the Funding Method, and the Data**

= **Determination of:**

Plan Funded Status and Employer Contribution Rate